

FORM 1	EPA	ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION <i>Consolidated Permits Program</i> (Read the "General Instructions" before starting.)	EPA I.D. NUMBER MID005358130
LABEL ITEMS		GENERAL INSTRUCTIONS	
I. EPA I.D. NUMBER	MID 005358130		If a preprinted label has been provided, affix it in the designated space. Review the information carefully. If any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.
III. FACILITY NAME	TOTAL PETROLEUM, INC		
V. FACILITY MAILING ADDRESS	EAST SUPERIOR STREET ALMA, MICHIGAN 48802		
VI. FACILITY LOCATION	EAST SUPERIOR STREET ALMA, MICHIGAN		
		US EPA RECORDS CENTER REGION 5 483373 NOV 10 1986 U. S. EPA REGION 5 OFFICE OF REGIONAL ADMINISTRATOR O. WMD CC: RF CEPT #P 317 885 304	

II. POLLUTANT CHARACTERISTICS			
INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.			
SPECIFIC QUESTIONS	YES	NO	MARK 'X' FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	X		
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			X
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			X
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			X

III. NAME OF FACILITY			
1	SKIP	TOTAL PETROLEUM INC ALMA REFINERY	
IV. FACILITY CONTACT			
A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2	JAMES H MCCOY	517	463 1161
V. FACILITY MAILING ADDRESS			
A. STREET OR P.O. BOX			
3	EAST SUPERIOR STREET		
B. CITY OR TOWN		C. STATE	D. ZIP CODE
4	ALMA	MI	48802
VI. FACILITY LOCATION			
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5	EAST SUPERIOR STREET		
B. COUNTY NAME		C. CITY OR TOWN	
GRATIOT			
D. STATE		E. ZIP CODE	F. COUNTY CODE
MI		48802	



ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS WASTE PERMIT APPLICATION
 Consolidated Permits Program
 (This information is required under Section 3005 of RCRA.)

EPA I.D. NUMBER

S	F	M	I	D	O	O	5	3	5	8	1	3	0						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

<input type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)	<input type="checkbox"/> 2. NEW FACILITY (Complete item below.)												
<table border="1"> <tr> <th>YR.</th> <th>MO.</th> <th>DAY</th> </tr> <tr> <td>73</td> <td>74</td> <td>75</td> </tr> </table> <p>FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)</p>	YR.	MO.	DAY	73	74	75	<table border="1"> <tr> <th>YR.</th> <th>MO.</th> <th>DAY</th> </tr> <tr> <td>73</td> <td>74</td> <td>75</td> </tr> </table> <p>FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN</p>	YR.	MO.	DAY	73	74	75
YR.	MO.	DAY											
73	74	75											
YR.	MO.	DAY											
73	74	75											

B. REVISED APPLICATION (place an "X" below and complete Item I above)

<input checked="" type="checkbox"/> 1. FACILITY HAS INTERIM STATUS	<input type="checkbox"/> 2. FACILITY HAS A RCRA PERMIT
--	--

III. PROCESSES - CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS		T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)		
INJECTION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			
UNIT OF MEASURE CODE			UNIT OF MEASURE CODE		
GALLONS	G		ACRE-FEET	A	
LITERS	L		HECTARE-METER	F	
CUBIC YARDS	Y		ACRES	B	
CUBIC METERS	C		HECTARES	Q	
GALLONS PER DAY	U				
LITERS PER DAY	V				
TONS PER HOUR	D				
METRIC TONS PER HOUR	W				
GALLONS PER HOUR	E				
LITERS PER HOUR	H				

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S															T/A C																																												
C															1																																												
16 - 18 19															27															28															29 - 32														
LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY										FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY										FOR OFFICIAL USE ONLY																																		
		1. AMOUNT (specify)					2. UNIT OF MEASURE (enter code)								1. AMOUNT					2. UNIT OF MEASURE (enter code)																																							
X-1	S 0 2	600					G						5																																														
X-2	T 0 3	20					E						6																																														
1	D 7 9	600,000,000					G						7																																														
2	D 8 1	25					B						8																																														
3													9																																														
4													10																																														
16 - 18 19															27															28															29 - 32														

VII. SIC CODES (4-digit, in order of priority)

A. FIRST										B. SECOND														
C	7	2	9	1	(specify) Petroleum Refining						C	7	(specify)											
13	14	15	16	17											13	14	15	16	17					
C. THIRD										D. FOURTH														
C	7	5	1	7	(specify) Petroleum Bulk Terminal						C	7	(specify)											
13	14	15	16	17											13	14	15	16	17					

VIII. OPERATOR INFORMATION

A. NAME																														B. Is the name listed in Item VIII-A also the owner?																													
C	TOTAL PETROLEUM INC																														<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO																												
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																						
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)																														D. PHONE (area code & no.)																													
F = FEDERAL S = STATE P = PRIVATE										M = PUBLIC (other than federal or state) O = OTHER (specify)										P (specify)										A 517 463 1161																													
E. STREET OR P.O. BOX																																																											
EAST SUPERIOR STREET																																																											
F. CITY OR TOWN																														G. STATE										H. ZIP CODE										IX. INDIAN LAND									
BALMA																														MI										48802										Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO									
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																						

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)															D. PSD (Air Emissions from Proposed Sources)																						
C	9	N	M10001066												C	9	P																				
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
B. UIC (Underground Injection of Fluids)															E. OTHER (specify)																						
C	9	U	MI-057-1W-002												C	9	(specify) State of Michigan Air Emission Permits																				
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
C. RCRA (Hazardous Wastes)															E. OTHER (specify)																						
C	9	R													C	9	(specify)																				
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

XI. MAP

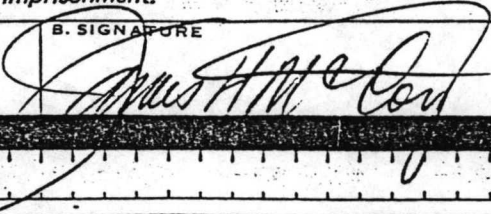
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Refining petroleum to produce gasoline distillates, and residual fuels for sale.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)															B. SIGNATURE															C. DATE SIGNED									
JAMES H. MCCOY, REFINERY MANAGER																														11-04-86									
COMMENTS FOR OFFICIAL USE ONLY																																							
C																																							
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY													
W	M	I	D	0	0	5	3	5	8	1	3	0	T/A	C	W												T/A	C
1	2												13	14	15	1	2									13	14	15
															DUP													
															2 DUP													

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

W Z JZ	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEA- SURE (enter code)	D. PROCESSES																							
				1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))															
				27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1	K 0 4 9	300,000	P	D	8	1																					
2	K 0 5 1	1,200,000	P	D	8	1																					
3	K 0 5 2	17,000	P	D	8	1																					
4	D 0 0 1	925,000	P	D	8	1																					
5	D 0 0 2	50,525,000	P	D	7	9																					
6	D 0 0 3	10,000	P	D	8	1																					
7	D 0 0 7	765,000	P	D	8	1																					
8	D 0 0 8	5,000	P	D	8	1																					
9																											
10																											
11																											
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26																											

IV. DESCRIPTION OF HAZARDOUS WASTE

(continued)

E. USE THIS SPACE TO LIST ADDITIONAL ACCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

F	M	I	D	0	0	5	3	5	8	1	3	0	T/A	C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

4	3	2	2	0	4	4
65	66	67	68	69	70	71

0	8	4	3	7	0	3	0
72	73	74	75	76	77	78	79

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

C														
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

C														
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

JAMES H. MCCOY, REFINERY MANAGER

11-04-86

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

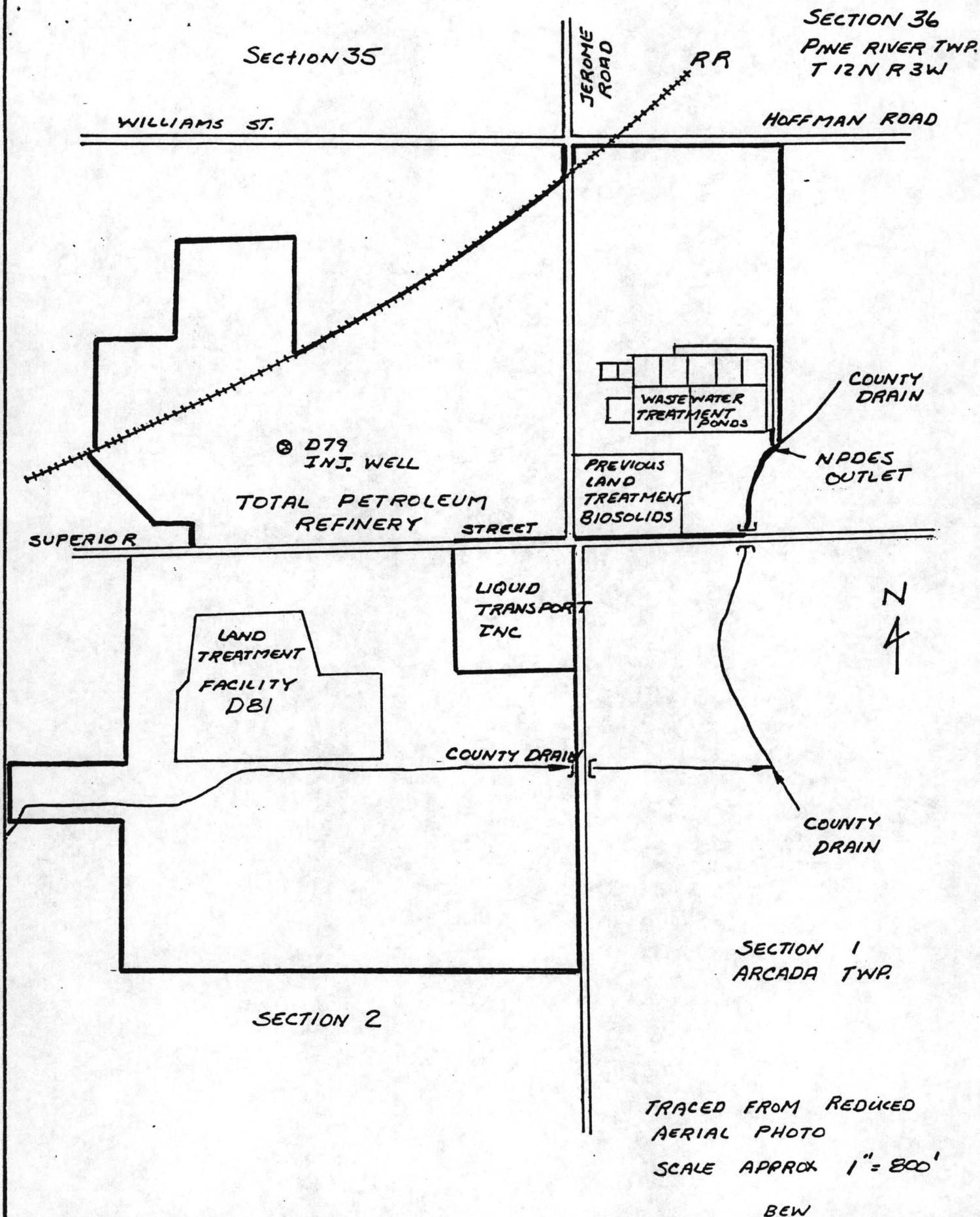
B. SIGNATURE

C. DATE SIGNED

JAMES H. MCCOY

11-04-86

V. FACILITY DRAWING (see page 4)



Department of Natural Resources

OPERATING LICENSE APPLICATION FOR

HAZARDOUS WASTE DISPOSAL FACILITIES

1. FACILITY NAME AND ADDRESS:

Name	Total Petroleum, Inc.			Alma Refinery	
No. and Street	City	State	Zip Code		
East Superior Street	Alma, Michigan	48801			

2. APPLICANT NAME AND MAILING ADDRESS:

Name of Applicant	Total Petroleum, Inc.			
No. and Street	City	State	Zip Code	
East Superior Street	Alma, Michigan	48801		

3. NAME AND ADDRESS OF TITLE HOLDER OF LAND

Name	Total Petroleum, Inc.			
No. and Street	City	State	Zip Code	
East Superior Street	Alma, Michigan	48801		

4. FACILITY LOCATION:

Street Address	City or Village
XXXXXX (NE) 1/4 of Section (2) of Arcada, Gratiot County. Township or city	

5. CONTACT PERSON:

Name and title	Telephone No.
C. J. Fulton, Refinery Manager	(517) 463-1161

6. FACILITY DESCRIPTION:

Petroleum Refinery Land Treatment of Oily Waste.

7. TYPE AND PURPOSE OF FACILITY:

a. Check Type of Facility Below:

- | | |
|--|--|
| <input type="checkbox"/> Landfill | <input type="checkbox"/> Incineration |
| <input type="checkbox"/> Deep Well Injection | <input type="checkbox"/> Treatment to a Non-hazardous State |
| <input checked="" type="checkbox"/> Land Treatment | <input type="checkbox"/> Treatment Followed by Recycling and Reuse |
| <input type="checkbox"/> Long Term Storage | <input type="checkbox"/> Treatment Followed by Other Disposal Method |
| <input type="checkbox"/> Other Long Term Containment | <input type="checkbox"/> Other Method (Not Long Term Containment) |

b. Check All Waste Types the Facility Handles

- | | |
|--|---|
| <input checked="" type="checkbox"/> Wastes Generated On-Site | <input checked="" type="checkbox"/> Wastes Generated Off-Site |
| <input checked="" type="checkbox"/> Sludges | <input type="checkbox"/> Bulk Solids |
| <input checked="" type="checkbox"/> Liquids, organic | <input type="checkbox"/> Liquids, inorganic |
| <input type="checkbox"/> Other (Explain) | |

Facility treats waste for other Company locations R-4910 3/12/81

8. CLOSURE AND POST CLOSURE TRUST FUND INFORMATION:

a. Anticipated operating life 15 years.Will all hazardous waste be removed as part of closure? ☐ Yes ☒ Noc. Cost estimate for closure (use current year dollars) \$40,000d. (.25) X cost estimate for closure \$10,000e. (.75) X cost estimate for closure
anticipated operating life in years \$2,000 per yearf. Cost estimate for post closure (use current year dollars) \$12,000g. (.25) X cost estimate for post closure \$3,000h. (.75) X cost estimate for post closure
anticipated operating life in years \$600i.
Name and address of trustee institution

9. EXISTING ENVIRONMENTAL PERMITS

Type of Permit	Permit Number	Issuing Agency	Date of Issuance
NPDES	MI 0001066	Mich. DNR	4/8/76
Mineral Well	23-737-829	Mich. DNR	7/9/73
Mineral Well	107-744-829	Mich. DNR	2/6/74
Process Air Permits	Various	Mich. DNR	

10. SITE DESCRIPTION

USE ADDITIONAL OR LARGER SHEETS, IF NECESSARY

The refinery is located in the SW 1/4 of Section 36; the SE 1/4 of Section 35 of Pine River Township (T12N, R3W) and the NE 1/4 of Section 2 Arcada Township (T11N, R3W) of Gratiot County. The terrain is nearly level with industrial and residential areas to the west, agricultural and industrial areas to the north, east, and south.

The land treatment area is located in the NE 1/4 Section 2 of Arcada Township.

Surface water near the facility is county drain No. 52 which runs north approximately one and one-half miles to the Pine River in St. Louis. One branch of this drain No. 52 A runs east and west through Section 2 of Arcada Township immediately south of the oily waste land farm. The fields are sloped to prevent run off into drain 52A from the active land farm area.

Vegetative cover consists of grasses except in the actively farmed or working area. A small wood lot on refinery property adjoins the land farm area. Active land treatment areas are frequently cultivated to promote biodegradation and are not allowed to grow vegetation.

Soil classification maps for the land treatment area show predominantly Capac and Lenawee loam soils. These soils are described as clay and silty clay loams containing some sand. The top soil is underlaid with clay in the land treatment area as shown in the hydrogeological report. USDA Soil Conservation Service survey of Gratiot County describes these as very poorly to poorly drained soils.

B. Please Check Drawings Attached:

☐ Site Master Plan

☐ Site Layout

☒ Plot Plan

☐ Process Flow Diagram

11. FACILITY DESIGN AND OPERATION

A. Schedule of Operation

If in operation, date operation started 1940

Useful life of facility Est.'d 15 years (see attached)

Days of Operation Per Year 365

Number of Hours of Operation Per Day 24 hours

B. Process Design Capacity

LINE	Disposal Code	Design Capacity	Unit of Meas.	LINE	Disposal Code	Design Capacity	Unit of Meas.
1.	D 82	See Below		7.			
2.		22,000,000	lb.	8.			
3.				9.			
4.				10.			
5.				11.			
6.				12.			

C. List additional disposal codes and/or any processes not covered by code.
Include design capacity and unit of measure for each process listed.

25 acres of land treatment area containing 22 acres of active field. Capacity at 100 tons of oil/acre/year = 2200 tons oil/year. Waste at 20% oil = 11000 tons or 22,000,000 lb./yr. Short term storage of oily waste in drums or oily dirt in piles will be on land treatment fields.

Supplemental

11A

Note:

Land treatment of oily waste is conducted in an area of refinery property which had been used for oily waste pits since 1940. The liquid waste oils were pumped out and spread on land beside the pits starting around 1970. Sand was added, mixed to absorb the rest of the oily sludges and the mixture then spread to degrade.

The total quantity of waste treated in the past 41 years is not known. Cation exchange capacity (CEC) is only one (and probably a minor) method of fixing metals contained in the waste but it is measurable. The soil presently has about one-half the capacity expected for these soil types. Cation exchange capacity increases as soil humus content increases with increased usage according to research done by others.

U. S. EPA and the Solid Waste Subcommittee of API are currently conducting a multi-year research program on metal loading and closure of refinery soil farms. This work will be followed and used to guide the Alma operation.

The soil farm is assumed to have a 15-year remaining capacity for the present but it may actually be much higher.

D. Description of Wastes to be Disposed

	EPA HAZARD. WASTE NO.	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEAS.	DISPOSAL CODES			PROCESS DESCRIPTION
1	K049	300,000	lb.	D 82			Land treat oily residue after oil recovery
2	K050	2,000	lb.	D 82			
3	K051	1,200,000	lb.	D 82			
4	K052	17,000	lb.	D 82			
5	D001	925,000	lb.	D 82			
6	D003	10,000	lb.	D 82			
7	D007	765,000	lb.	D 82			
8	D008	5,000	lb.	D 82			
9							
10	Other oily wastes might possibly contain metals in concentration high enough to make them						
11	D004, D005, D006, D009, D010, D011, 001D, 002D, or 003D. (None have so far). If any oily						
	wasted should contain these metals they would be treated as above.						
12							
13							
14							
15							

E. List additional disposal codes from D. above:

K 048 - DAF float not used at Alma. All oil - water emulsions (primary and secondary) are treated to recover oil and the residue is reported at K 051.

DEPARTMENT OF NATURAL RESOURCES
AIR QUALITY DIVISION
P.O. BOX 30028
LANSING, MICHIGAN 48909

STATE OF MICHIGAN

AIR USE PERMIT

APPLICATION

APPLICATION NO
742-87

FOR AUTHORITY TO INSTALL, CONSTRUCT, RECONSTRUCT, RELOCATE, OR ALTER, **AIR QUALITY DIVISION**
AND OPERATE PROCESS, FUEL-BURNING, OR REFUSE-BURNING EQUIPMENT AND/
OR CONTROL EQUIPMENT (PERMITS TO INSTALL AND OPERATE ARE REQUIRED
BY ADMINISTRATIVE RULES PURSUANT TO ACT 348, P.A. 1965, AS AMENDED).
12th
OCT 26 1987

1 APPLICANT: Business License Name of Corporation, Partnership, Individual Owner, Government Agency Total Petroleum, Inc.		
2 MAILING ADDRESS: Number and Street; City or Village; State; Zip Code E. Superior Street Alma Michigan		
3 EQUIPMENT OR PROCESS LOCATION: Number and Street; City, Village or Township Same	COUNTY Gratiot	ZIP CODE 48802
4 GENERAL NATURE OF BUSINESS: Petroleum Refining		
5 EQUIPMENT OR PROCESS DESCRIPTION: Install a 40,000 pounds of steam per hour boiler. We expect to need the extra steam capacity provided by this boiler for approximately two years. The fuel for this boiler will be refinery fuel gas. Fuel oil will not be burned in this boiler.		
6 ESTIMATED COST: Air Pollution Control Equipment \$ _____ Total Project \$ _____		
7 ACTION AND TIMING: <input type="checkbox"/> Installation, construction, reconstruction, or alteration <input type="checkbox"/> Relocation <input type="checkbox"/> Change of Ownership	ESTIMATED STARTING DATE Nov. 15, 1987	ESTIMATED COMPLETION DATE Dec. 1, 1987
8 NAME OF PRIOR OWNER AS IN ITEM 1 ABOVE, AND PRIOR AIR USE PERMIT NUMBER, IF ANY: NAME _____ PERMIT NO. _____		
9 NAME AND TITLE OF OWNER OR AUTHORIZED MEMBER OF FIRM Name Benjamin E. White Signature <i>Benjamin E. White</i> Title Environmental Engineer Date 10/8/87 Phone No. (517) 463-1161		
10 CONTACT PERSON IF DIFFERENT THAN ITEM 9: Name _____ Phone No. () _____		
11 DISPOSITION OF APPLICATION: FOR DNR USE ONLY Receipt of all information required by Rule 203 10-26-87 DEC 30 1987 Permit to install approved * on _____ Signature <i>Robert Miller</i> Permit to operate approved * on _____ Signature _____ Application permit voided on _____ Signature _____ Application/permit denied on _____ Signature _____		

*Subject to compliance with all Commission Rules and Conditions stipulated in the attached supplement.

Description of Project

Our plan is to replace the existing saturated gas plant with a new plant which will produce gas products that are more saleable and/or more useable in the other refinery processes.

The flow scheme is similar to the flow sequence of the existing saturated gas plant. The flow sequence is absorber-stripper, debutanizer, depropanizer and deisobutanizer.

Liquid feedstocks to the plant will include: prefractionator overhead liquid (Permit 93-72), light condensate, heavy condensate, and reformer stabilizer liquid (Permit 101-71).

Gas feedstocks include: naphtha hydrotreater stripper gas (Permit 101-71), reformer stabilizer gas (Permit 101-71) and isomerization stabilize gas (Permit 78-76).

Products will include fuel gas (Permit 728-79), HD5 propane, 95% isobutane and C₅+ naphtha. The LPG products will meet Gas Processor Association standards and will be capable of being sold as such.

Existing and Proposed Saturated Gas Plant Capacities

Those capacities are summarized as follows:

<u>Existing Saturated Gas Plant</u>			<u>Proposed Saturated Gas Plant</u>					
Feed Stock Source	Prefractionator Overhead Liquid	Purchased Light and Heavy Condensate	Prefractionator Overhead Liquid	Purchased Light and Heavy Condensate	Reformer Stabilizer Overhead Liquid	Reformer Stabilizer Offgas	Naphtha Hydrotreater Stripper Offgas	Isomerization Stabilizer Offgas
Liquid Barrels Per Day	9,500	3,000	9,775	5,406	550			
Gas 1000 SCFD						0.44	1.25	0.70

Fuel Gas to the Amine Unit

The only effect that this plant will have on point source emissions will be changes in the quantity of gas generated in the new absorber-stripper. These gases will be sent to the fuel-gas system. They will enter that system at the sulfur removal step (the amine unit Permit 728-79). Fuel gas leaving the amine unit is routed to the cryogenic unit (Permit 94-728). From the cryogenic unit the remaining fuel gas enters the fuel gas balance tank. Any excess fuel gas from the balance tank that is not burned in our various furnaces or boilers is burned in our flare (Permits 94-72 and 94-72A).

The composition of fuel gas entering the cryogenic unit will change as a result of the proposed saturated gas plant. The following table shows that the total quantity of fuel gas will increase from 3822 barrels per day (fuel oil equivalents) to 3944 barrels per day (FOE). This increase will be because of the increased ability of the new saturated gas plant to separate hydrogen (H₂) methane (C₁), and ethane (C₂) from the plant's feedstocks.

CRYOGENIC UNIT RECOVERY
AND
FUEL GAS CHANGES
BEFORE AND AFTER
PROPOSED SATURATED GAS PLANT

	<u>Before Proposed Sat. Gas Plant</u>				<u>After Proposed Sat Gas Plant</u>				<u>Change</u>	
	<u>Cryo Unit Feed BPD (MCFD)</u>	<u>Cryo Unit % Recovery</u>	<u>Fuel Gas From Cryo Unit BPD</u>	<u>MMBTU/D In Fuel Gas</u>	<u>Cryo Unit Feed BPD (MCFD)</u>	<u>Cryo Unit % Recovery</u>	<u>Fuel Gas From Cryo Unit BPD</u>	<u>MMBTU/D In Fuel Gas</u>	<u>Fuel BPD</u>	<u>MMBTU/D</u>
H ₂	(6,388)	0.0	278 (FOE)	1,750	(6,451)	0.0	281 (FOE)	1,768	3	18
C ₁	1,228	0.0	1,228	2,772	1,271	0.0	1,271	2,869	43	97
C ₂	1,209	0.0	1,209	3,060	1,319	0.0	1,319	3,338	110	278
C ₃	452	85.98	63	221	161	85.98	23	81	-40	-140
iC ₄	209	98.73	3	12	67	98.73	1	4	-2	-8
nC ₄	124	98.73	2	8	42	98.73	0	0	-2	-8
iC ₅	64	99.90	0	0					0	0
C ₅					123	99.90	0	0	0	0
C ₂ =	999	0.0	999	2,471	999	0.0	999	2,471	0	0
C ₃ =	188	78.72	40	144	188	78.72	40	144	0	0
C ₄ =	44	99.19	0	0	44	99.19	0	0	0	0
Totals			3,822	10,438			3,934	10,675	112	237
			BPD	MMBTU/D			BPD	MMBTU/D	BPD	MMBTU/D

VOC Sources

All affected components in the new saturated gas plant will be added to our VOC monitoring system. These components include all pumps and valves in VOC service.

All pumps will be equipped with tandem seals and any fluid between the seals will be vented to the flare (Permit 94-72)

Any relief valves in VOC service will be equipped with vent systems capable of capturing and transporting leakage through pressure relief valve to the flare.

Each sampling connection in VOC service will have a closed purge or closed vent system. These closed systems will either return the purges fluid to the process, collect and recycle the process fluid, or capture and transport the purged fluid to the flare.

All open ended valves or lines will be equipped with caps, blind flanges , plugs or a second valve will be installed. These devices will seal the open end at all times except during operations requiring flow through the open ended valve or line.

New Propane Storage Tanks and Truck Loading (Offsite Storage and Transport)

In conjunction with this project we plan to install eight 30,000 gallon propane storage tanks. We also plan to install a new truck loading rack for propane with this project. Both the new storage tanks and loading rack will be located outside of the battery limits and away from the process unit. The safety systems provided for the tanks include pressure relief valves for each tank. In addition, excess flow valves will be provided to block the flow in case a ruptured line or other uncontrolled flow condition. The truck loading will be a pressurized system with no emissions to the atmosphere under normal operating conditions.

APPLICATION TO REPLACE THE EXISTING 40 TANK
WITH A NEW 40 TANK OF THE SAME SIZE

Tank No. 40 is a 1,050,000 gallon capacity tank with an internal floating roof. It will be dismantled and replaced with a tank of the same size. The tank will be constructed to meet specification of API (American Petroleum Institute) 650.

The dimensions of the new tank will be:

Diameter 68'
Height 40' 10"

A complete set of Brown Minneapolis Tank drawings is attached for your review. This tank will be used to store full range naphtha, which is the petroleum fraction that comes off the top of the crude unit. After this material leaves this tank it will be processed through the naphtha hydrotreater for sulfur removal. From the hydrotreater it will go through a splitter. After the splitter, the heavy naphtha will be sent to the platformer and the light naphtha will be sent to the Isomerization unit.

We estimate that the throughput of the new tank will be approximately 125,000,000 gallons per year. The tank is used for process unit rundown and will be available for storage 24 hours/day, 7 days/week.

Full boiling range naphtha has a true vapor pressure of approximately 3.1 psi at 65°F. Its specific gravity is approximately .72 at 60°F and, therefore, its density is approximately 6 pounds per gallon at 60°F.

The fixed roof tank will be equipped with an internal floating roof manufactured by Petrex Inc. The Petrex internal floating roof will meet all requirements of 40 CFR Part 60.112b(a)(1). The sealing device between the tank wall and the edge of the internal floating roof shall be two continuous closure seals mounted one above the other with the lower seal vapor mounted as described in 40 CFR Part 60.112b(a)(1)(ii)(B). Petrex drawings are attached for your review.

In meeting the requirements of 40 CFR Part 60.112b(a)(1) this internal floating roof meets or exceeds the requirements found in Michigan Rules 336.1702 and 336.1604.

AIR QUALITY DIVISION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
P.O. BOX 30028, LANSING, MICHIGAN 48909

APPLICATION NO
63087

APPLICATION TO THE AIR POLLUTION CONTROL COMMISSION

APPLICATION WAS COMPLETE
ON 9.16.87

AIR QUALITY DIVISION

AUG 24 1987

for authority to construct, install or alter

and

for permit to operate process, fuel burning, refuse burning and/or air pollution control equipment

PERMIT SECTION

1 PERMIT TO BE ISSUED TO: (Business License Name of Corporation, Partnership, Individual Owner, Governmental Agency)
TOTAL PETROLEUM, INC.

2 MAILING ADDRESS: (Number, Street, City or Village, Zip Code)
E. SUPERIOR STREET, ALMA, MICHIGAN 48802

3 EQUIPMENT OR PROCESS LOCATION (Number, Street, City or Village, Township, Zip Code)
E. SUPERIOR STREET, ALMA, MICHIGAN 48802

4 TYPE OF ORGANIZATION ☒ Corporation ☐ Partnership ☐ Individual Owner ☐ Governmental Agency

5 GENERAL NATURE OF BUSINESS:
Petroleum Refinery

6 EQUIPMENT DESCRIPTION: Application is hereby made for permission to construct, install or alter and to operate the following equipment:

Replace our existing Tank No. 40 with a new tank. Both the tank to be replaced and the proposed tank capacities are 1,050,000 gallons. The new tank will have a fixed roof and be equipped with an internal floating roof. It will be used to store full boiling range naphtha that has not been desulfurized.

7 ESTIMATED COST: Air Pollution Control Equipment \$ 39,000 Total Project \$ 180,000

8 PRESENT STATUS OF EQUIPMENT: (Check and complete applicable items)

	Estimated Starting Date	Estimated Completion Date
(X) Construction or installation not started	<u>9/21/87</u>	<u>11/9/87</u>
() Construction or installation partly completed	_____	_____
() Construction completed	_____	_____
() Equipment is to be altered	_____	_____
() Equipment is partly altered	_____	_____
() Equipment has been altered	_____	_____
() Change of location and/or ownership	_____	_____

9 NAME OF PRIOR OWNER AS IN (1) ABOVE, AND PRIOR AIR POLLUTION CONTROL PERMIT NUMBER, IF ANY:
(Name) _____ (Permit Number) _____

10 TYPE OR PRINT NAME AND TITLE OF OWNER OR AUTHORIZED MEMBER OF FIRM:
(Name) James H. McCoy (Title) Refinery Manager
(Signature) [Signature] (Date) 19 AUG 87 (Phone No.) (517) 463-1161

11 DISPOSITION OF APPLICATION:
* Subject to compliance with all
Permit to install approved and issued on NOV 12 1987 Signature [Signature]
Commission Rules and Regulations
Permit to operate approved and issued on _____ Signature _____
stipulated in the attached supplement.

MDNR
USE ONLY

Additional monitoring wells will be located and installed using this information. Monitoring wells will continue to be installed until sufficient geologic and water chemistry data is available to assess the lateral and longitudinal extent of degraded groundwater.

Identification of the Vertical Extent of Contamination

Logs for domestic wells indicate that layers of sand, gravel, clay and silt overlie regionally extensive clays, approximately 30 to 140 feet thick, in the refinery area. Total Petroleum test wells show that within the overlying materials a narrow permeable zone with a saturated thickness of approximately 10 feet extends from the soil farm toward the refinery. No significant vertical water chemistry variations within this permeable zone are anticipated, however, to confirm this, one profile boring will be drilled adjacent to monitoring well No. 21. A temporary well will be set at 16 feet to collect water samples. The boring will be drilled using hollow stem augers, and a two-inch diameter well will be set for water sampling. After water sample collection from both well No. 21 and the adjacent temporary well, the casing and screen will be pulled and the borehole grouted with a bentonite slurry.

Task 2:

Groundwater Contamination Cleanup

FTC&H will investigate plans to capture and treat contaminated groundwaters in the immediate area of the soil farm in three ways: possible construction of a slurry wall, installation of purge wells, and continued operation of the underdrain system.

FTC&H will investigate installation of a slurry wall upgradient of the soil farm. Soil borings will be drilled at 150-foot intervals along the southern and western edges of the farm area to determine soil conditions and the physical requirements of a slurry wall to stop the on-site migration of groundwater. Groundwater samples will be taken from wells located near the

Laboratory work will be completed by September 14, 1984.

Monitoring Data Questions

Mr. Rector's letter of April 4, 1984 expresses concern that lead levels may be elevated above background levels. We do not believe that the data supports this concern. Lead values measured for the background well (MW 4) have been less than the detection limit (.0003) mg/L. We did report detectable lead concentrations in five wells during August 1983. We also in October 1983 reported one lead concentration at the detection limit. However, upon review of the original data we discovered that this October value should have been reported as being less than the detection level ($<.0003$). Therefore, no detectable level of lead was again measured in any well during the four month's sampling after August of 1983. If we had been sampling on a less frequent than monthly schedule and a detectable level of lead had been measured in a well we would have first attempted to confirm that data by immediately resampling. This confirmation is required by both our permit and the federal regulations. However, a monthly sampling schedule does not allow time to resample. Accordingly, the confirmation of each month's data occurred during the next month's sampling. Since none of the August detectable lead levels were repeated those concentrations were not confirmed and in our view, they are invalid values.

This problem of reporting unconfirmed values is particularly acute when observing the concentration that we reported from MW 20 for August 22, 1983. At that time MW 20 was a new well and we were sampling it for the first time. There is an increased possibility of sample contamination of any new well because there are opportunities for outside contamination during the drilling and installation. Therefore, the first sampling of any new well should be confirmed before conclusions are made about that data. In the case of MW 20, the August 22nd lead data was not confirmed in subsequent samples and, therefore, the first data point should be regarded as being invalid. We also believe that the fact that the August 22nd lead value for MW 20 is much higher and inconsistent with all other values measured from the other wells should be an additional reason to be suspicious about that data's validity.

Mr. Rector's letter also mentions several other constituents from several wells that were shown to exceed background levels. Those constituents include chloride, sulfate, sodium, iron and manganese. These ions are the constituents which have resulted in the elevated conductivity levels being observed in the groundwater.

The letter also contains a reference to oil and grease being elevated in the groundwater. MW 6 showed one excursion above background and MW 21, upon its first sampling, showed one excursion. These two incidents were not repeated during subsequent sampling and we do not believe that these incidents are indicative of an oil and grease problem.

These proposals include a plan for stopping migration of contaminated groundwater off the site and for removal of the most contaminated groundwater in the vicinity of the facility. Once this removal system is complete it would operate continuously. Therefore, no further migration of any contaminants regardless of the source, should occur away from the site and further use of the treatment area would not be expected to affect the downstream groundwater.

Follow-up Meeting

During our discussions on April 17, 1984 a tentative follow-up meeting date of May 8, 1984 was suggested. Unfortunately, our hydrogeological consultant will not be available on May 8, 1984. We do wish to meet with you and Mr. Bohunsky to review these programs in the near future. Can we arrange a meeting time for May 9 or 10, 1984?

Sincerely,

Benjamin E. White
Benjamin E. White

BEW:djw